

Amendments to the Claims:

Claims 13, 17 and 18 are currently amended. Claims 1 – 3, 5 and 14 – 16 are previously presented. Claims 4 and 6 – 12 are original. No new matter is added by these amendments. Consideration of all amendments is respectfully requested.

5 **Listing of Claims:**

Claim 1 (previously presented): A method for controlling a stepping motor in an optical storage system, which comprises a pick-up head for achieving a short seek, and an object lens, the method comprising:
calculating a number of steps that the stepping motor should rotate;
10 moving the pick-up head toward a target position by having the stepping motor rotate according to the number of steps;
determining a shift distance between the object lens and the center of the pick-up head; and
selectively stopping movement of the pick-up head according to the shift
15 distance before the short seek is achieved.

Claim 2 (previously presented): The method of claim 1, wherein the pick-up head is placed on a sled, the sled being electrically connected to the stepping motor, and the step of moving the pick-up head toward a target position by having the
20 stepping motor rotate according to the number of steps further comprises:
utilizing the stepping motor for driving the sled to move the pick-up head toward the target position.

Claim 3 (previously presented): The method of claim 1, further comprising moving the
25 object lens toward a target track.

Claim 4 (original): The method of claim 3 further comprising:

moving the object lens from an initial track to the target track according to a predetermined speed; and
determining at least one step according to a distance between the initial track and the target track.

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Claim 5 (previously presented): The method of claim 3, wherein the step of selectively stopping movement of the pick-up head according to the shift distance further comprises:

10 stopping utilizing the stepping motor to move the pick-up head if the shift distance is lower than a predetermined shift range, while the object lens has not reached the target track, and the stepping motor has not rotated according to the number of steps; and

15 utilizing the stepping motor to move the pick-up head if the shift distance is greater than the predetermined shift range, while the object lens has not reached the target track, and the stepping motor has not rotated according to the number of steps.

20 Claim 6 (original): The method of claim 1, wherein the optical storage system further comprises a control module for controlling operations of the stepping motor, the pick-up head, and the object lens.

Claim 7 (original): A method of achieving a short seek in an optical storage system, the optical system having a stepping motor, a pick-up head, and an object lens, the method comprising:
25 (a) calculating a number of steps that the stepping motor should rotate;
(b) after step (a), utilizing the stepping motor to move the pick-up head toward a target position and move the object lens toward a target track at the same time;
(c) determining if the object lens has reached the target track, wherein the short

seek is finished if the object lens has reached the target track; otherwise, step
(d) is performed; and
(d) continuing to move the object lens until the pick-up head has reached the
target position and then returning to step (c); otherwise, repeating step (d).

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Claim 8 (original): The method of claim 7 further comprising:

(e) during step (d), when the pick-up head has not reached the target position and
the object lens has not reached the target track, checking if a shift distance is
lower than a predetermined shift range; if true, then stopping utilizing the
stepping motor to move the pick-up head; otherwise, going to step(f); and
(f) continuing to utilize the stepping motor to drive the pick-up head according to
a predetermined speed, and then returning to step (e);
wherein the shift distance is between the object lens and a center of the pick-up
head.

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Claim 9 (original): The method of claim 7, wherein the pick-up head is placed on a sled,
the sled is electrically connected to the stepping motor, and step (b) utilizes the
stepping motor to drive the sled.

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Claim 10 (original): The method of claim 7 further comprising:

(g) in step (b), moving the object lens from an initial track to the target track
according to a predetermined speed curve; and
(h) in step (b), calculating the number of steps that the stepping motor should
rotate according to a distance between the initial track and the target track.

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Claim 11 (original): The method of claim 7, wherein the stepping motor and the object
lens move along a radial direction in step (b).

Claim 12 (original): The method of claim 7, wherein the optical storage system further comprises a control module for controlling operations of the stepping motor, the pick-up head, and the object lens.

5 Claim 13 (currently amended): An optical storage system comprising:
a sled placed movably in the optical storage system;
a pick-up head placed on the sled;
an object lens placed movably on the pick-up head;
a stepping motor electrically connected to the sled for driving the sled to move
10 the pick-up head and stopping the sled and the pick-up head when a shift
distance corresponding to a distance between the pick-up head and the object
lens is lower than a predetermined range[[],] ; and
a control module electrically connected to the stepping motor, the pick-up head,
and the object lens for controlling operations of the stepping motor, the
15 pick-up head, and the object lens and determining the shift distance and the
predetermined range.

Claim 14 (previously presented): The optical storage system of claim 13, wherein the sled
and the object lens move along a radial direction.

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Claim 15 (previously presented): The optical storage system of claim 13, wherein the
shift distance is a distance between the object lens and a center of the pick-up
head.

25 Claim 16 (previously presented): The optical storage system of claim 13, wherein the
stepping motor is implemented for a short seek.

Claim 17 (currently amended): An optical storage system comprising:

a sled placed movably in the optical storage system;
a pick-up head placed on the sled;
an object lens placed movably on the pick-up head;
a stepping motor, electrically connected to the sled, for driving the sled to move
5 the pick-up head if a shift distance corresponding to a distance between the
pick-up head and the object lens is greater than a predetermined range and
the object lens has not reached a target position, and stopping the sled and the
pick-up head when the shift distance is lower than the predetermined range
and the object lens has not reached the target position; and
10 a control module electrically connected to the stepping motor, the pick-up head,
and the object lens for calculating a number of steps that the stepping motor
should rotate and controlling operations of the stepping motor, the pick-up
head, and the object lens and determining the shift distance and the
predetermined range.

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Claim 18 (currently amended): A method for controlling a stepping motor in an optical
storage system, which comprises a pick-up head for achieving a short seek and
an object lens placed movably on the pick-up head, the method comprising:
calculating a number of steps that the stepping motor should rotate;
20 moving the pick-up head toward a target position by having the stepping motor
rotate according to the number of steps;
moving the object lens toward a target track;
comparing a shift distance corresponding to a distance between the pick-up
head and the object lens with a predetermined shift range;
25 stopping utilizing the stepping motor to move the pick-up head if the shift
distance is lower than ~~[[a]]~~ the predetermined shift range, while the object
lens has not reached the target track, and the stepping motor has not rotated
according to the number of steps; and

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utilizing the stepping motor to move the pick-up head if the shift distance is greater than the predetermined shift range, while the object lens has not reached the target track, and the stepping motor has not rotated according to the number of steps.